U.S. Fish and Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines

Jordan River NFH Transforms Grounds into Outdoor Classroom

Jordan River NFH Celebrates Completion of Construction Projects

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Fish Lines

Fisheries & Aquatic Resources Program - Midwest Region

The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

The vision of the Service's Fisheries Program is working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and to support Federal mitigation programs for the benefit of the American public. Implementing this vision will help the Fisheries Program do more for aquatic resources and the people who value and depend on them through enhanced partnerships, scientific integrity, and a balanced approach to conservation.

Features

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The Wisconsin Indianhead Technical College schoolyard wildlife habitat rain gardens capture polluted runoff from a 82,000 square foot parking lot and part of the building's roof.

To view other issues of "Fish Lines," visit our website at:
http://www.fws.gov/midwest/Fisheries/library/fishlines.htm

Fish Lines

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-NYSDEC/MikeConnerton

A handheld wand detector is used to scan for a coded-wire tag in a Chinook salmon by Great Lakes Mass Marking biologist Kevin Pankow at the WayneCounty Pro-Am in Sodus Point, New York.

Fish Lines is produced by the Fisheries and Aquatic Resources Program, Region 3, U.S. Fish & Wildlife Service, Ft. Snelling, Minnesota. Items included are selected from monthly reports submitted by Region 3 fisheries offices. Photos included are used by permission and may be copyrighted.

Conservation Briefs 7-20

Jordan River NFH Transforms Grounds into Outdoor Classroom

BY ROGER GORDON, JORDAN RIVER NFH

Jordan River National Fish Hatchery (NFH) was the recipient of a 2009 Visitor Facility Enhancement (VFE) project targeting outdoor education infrastructure and opportunities for the public. Provided funding totaled $61,489 and was expended in 2010 and 2011.

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Jordan River National Fish Hatchery Youth Conservation Corps enrollees construct the nature trail component of an outdoor classroom project at the hatchery.

Initial plans for the project called for a 10,000 square foot "Outdoor Discovery Zone" located on the hatchery for visiting youth and teachers' use during seasonal tours of the facility. The proposed area was to include interactive stations allowing students and teachers direct engagement with constructed natural habitats increasing the childrens' understanding of the natural environment in which we live. During the design phase of the project, it was apparent that given the hatchery location in the picturesque and ecologically diverse Jordan River valley of northern Michigan, the initial plans would be short-sighted, limiting the project to a series of reconstructed natural features already found on the grounds of the facility.

The Jordan River NFH is located on 116 acres of mixed upland hardwood forest and lowland riparian zones. This diverse habitat, along with multiple streams, wetland areas, and riverine sites affords a host of educational opportunities for the visiting public. For our new vision of the VFE project money, we decided on these new project goals: Construct .75 miles of nature trails that will include access to all major forest and riparian zones found on the hatchery; Construct a four season shelter to provide a "home base" for visiting students, teachers and the public. This structure will allow a respite from heavy seasonal rains, insects and bitter winter weather that is endemic to this area of Michigan; Improve unstructured access for visiting public and educators to natural areas of facility, including riparian areas; Construct a 15,000 ft^2 pollinator garden representing both upland and lowland native plants, and; Provide employment for up to eight Youth Conservation Corps (YCC) students.

Construction of the three quarter mile nature trail was completed in fall of 2010. Labor for the project was

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A Youth Conservation Corps crew and hatchery staff put the finishing touches on a weather shelter for their outdoor classroom project.

provided by four YCC interns, hatchery staff and Boy Scouts of America volunteers. In addition to the extensive trail system, six resting benches and over a dozen informational signs highlighting geological or natural points of interest were erected.

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Winter snowshoe enthusiasts enjoy the view from Jordan River National Fish Hatchery's newly constructed Hatchery Overlook Trail.

Construction of a four season shelter was completed in 2011. Already well used, this 550 square foot shelter has attracted multiple school groups during field trips to the facility as well as the visiting public on a daily basis. Plans for 2012 by area schools call for extensive use throughout the fall and winter months.

Improving visitor access to forest and riparian areas of the hatchery began in 2010, and was completed in 2011 with the removal of 1,500 linear feet of chain link fence that bordered the visitor parking lot and newly constructed pollinator garden. This fencing, which was 49 years old and deteriorated, blocked access to most of the forest and 75% of the riparian zones found on the hatchery. The facility had received numerous inquiries about improving access to these forested and streamside areas from visiting teachers and outdoor enthusiasts. The old fencing was replaced by an aesthetically pleasing split rail cedar fence. This improvement affords access to four areas for visitors to enter forested areas of the hatchery and access the Jordan River, Five Tile Creek, and the Jordan River Road Trail.

The fourth component of the VFE project at Jordan River NFH was the construction of a 15,000 square foot demonstration pollinator garden in the summer of 2011. This garden, composed of native plants endemic to northern Michigan demonstrates the diversity and beauty of the wild flora of the area, highlighting the importance of pollinators to the natural and agricultural world. Over 4,000 plants of 40 species were planted by hatchery staff, YCC enrollees, volunteers and Friends group members. This feature, located adjacent to the hatcheries four season shelter and with access to the hatchery trails, has been a popular attraction at the hatchery in 2011 and will be incorporated into the tour curriculum of visiting area schools.

The completion of the Visitor Facility Enhancement project at Jordan River NFH is a fine example of how a small infusion of targeted funding can be leveraged into something greater. By the use of volunteer, youth program and staff labor, Jordan River NFH was able to turn a modest 60 thousand dollar grant into a station-wide renovation project for the public. Wise use of these funds has greatly improved the education capability of this station and been a sound investment for public education.

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

Jordan River NFH Celebrates Completion of Construction Projects

BY ROGER GORDON, JORDAN RIVER NFH

Jordan River National Fish Hatchery (NFH) hosted a public dedication and open house celebration to commemorate the completion of several high profile construction projects on the facility. This event, sponsored by the hatcheries' "Friends" organization, highlighted improvements carried out via funding from the American Recovery and Reinvestment Act of 2009 (ARRA). Funding provided by this Act enabled the hatchery to construct two large fish culture buildings on the hatchery, convert the main hatchery buildings heating and cooling requirements to an energy saving geothermal system, and to update the hatchery's culture water treatment facilities. Total costs for renovations to the facility totaled over 5.5 million dollars with just over 3.9 million dollars coming from ARRA funding. The remaining costs for the projects were supported by Fish and Wildlife Service construction and maintenance funding. These and other Fish and Wildlife Service projects supported by the Recovery Act provided much needed employment within the Midwest Region and took full advantage of the quality construction services provided by the large number of contractors, electricians, plumbers, manufacturers and tradesmen.

Festivities associated with the dedication event included a ribbon cutting ceremony, Friends group sponsored luncheon for the public, informational booths, and a children's fishing pond. Over 400 visitors attended the celebration and a wonderful time was had by all. For more information on this or other happenings at the Jordan River NFH, please contact Project Leader Roger Gordon at 231-584-2461 or email at roger_gordon@fws.gov, or check out the hatchery on Facebook at http://on.fb.me/i4jfDV.

-USFWS

Pictured is the south view of two newly constructed fish culture buildings at the Jordan River National Fish Hatchery.

-USFWS

Attendees at the Jordan River National Fish Hatchery dedication event included (Lt. to Rt.) Roger Gordon (Hatchery Manager), Craig Swedenborg (Regional Engineer), Gabe Schneider (Aid to Senator Carl Levin of (MI)), Mike Weimer (Assistant Regional Director-Fisheries), Brandon Fewins (Aid to Senator Deborah Stabenow (MI)), and Margaret Bennet (Vice President-*Friends of the Jordan River NFH*).

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

Bank Unveils Painting of Neosho NFH at Grand Opening

BY MELISSA CHEUNG, NEOSHO NFH

Partnerships are essential for effective fisheries conservation. Many agencies, organizations, and private individuals are involved in fisheries conservation and management, but no one can do it alone. Together, these stakeholders combine efforts and expertise to tackle challenges facing fisheries conservation. The success of these partnerships will depend on strong, two-way communications and accountability.

Neosho National Fish Hatchery (NFH) staff set aside their normal duties to visit a new bank in town. The Neosho Branch of First Community Bank was having their grand opening and the hatchery crew had been given advanced notice to be there. Surrounded by bank executives, community leaders, local community supporters and the hatchery Friends group, hatchery staff waited for the ceremony to begin. Although we felt like fish out of water (pardon the pun) amidst the suits and ties, this was not just any bank grand opening. Thanks to the work of local artist W. Jeffrey Jones, the annual seining of rainbow trout at Neosho NFH has been forever captured in a large painting for all to see at First Community Bank.

Mr. Jones' painting of the fish hatchery was showcased at the grand opening. After some formal introductions, the painting was unveiled by the artist himself and hatchery manager David Hendrix. The painting shows biologists Jaime Pacheco, Melissa Cheung and Jeff Messens pulling in a seine net full of rainbow trout. Jonathan Lara, one of the volunteers that helped with the pond seining, is also in the painting. In the foreground, David Hendrix holds a rainbow trout as if about to release it back into the pond. Hung on a wall facing the main entrance, it occupies a prominent space in the bank.

Months before the bank was set to open, First Community Bank contacted Mr. Jones to depict a local landmark in a painting. The painting would be approximately three foot by four foot in size. A Neosho resident since childhood, Mr. Jones admittedly had a variety of local sites in mind. It was not until he visited the new visitor center, toured the facility, and met the staff that he decided to focus on the Neosho NFH. After learning about the hatchery's Friends group, he and his wife Donna, who works at First Community Bank, became members. From then on they have actively worked with hatchery staff and the Friends group and fiercely advocate for the hatchery. Although we will never know what exactly caught Mr. Jones' interest in our facility and hatchery community, his work has more than exceeded our expectations and made us avid supporters of him.

After taking hundreds of hatchery photos, Mr. Jones created numerous paint, pencil and watercolor studies. These works highlighted features of the hatchery that locals have come to recognize as characteristic of Neosho NFH. A couple noteworthy examples include the seahorse column at the hatchery entrance, the Cushman carts that are used by staff to get around the hatchery, and the new visitor center that faces the highway.

Although the eight weeks or more that it took Mr. Jones to complete the hatchery painting have come to an end, he has already begun another painting for the Goodman Branch of First Community Bank. An artist with a penchant for giving back and doing it locally, Mr. Jones hopes the media and attendees of the bank's grand opening will help the fish hatchery and its Friends gain exposure. The artist would like his painting to garner financial and community support. He would like to see news of the hatchery painting in the state agency's *Missouri Conservationist* magazine. At Mr. Jones' prompting, First Community Bank agreed to have a lithograph of the painting framed and matted for the Fish and Wildlife Service's Regional office building. To support the fish hatchery, he made prints of the visitor center available for purchase in the hatchery gift shop. Mr. Jones kindly gave each member of the hatchery staff their own print. The seahorse study and a study of the seining crew are both going to be available for viewing and purchase at The Grotto Fine Art Gallery in the Neosho square.

It takes people like W. Jeffrey Jones to ensure that the hatchery has a place in this community. By doing what he does best, Mr. Jones taught us what it means to be an advocate in our community. We are lucky to count him as a "Friend", but consider him a friend as well. The momentum he has created with this hatchery painting continues. At this rate, he is not stopping anytime soon.

For further info about the Neosho NFH: http://www.fws.gov/midwest/neosho/

Fathead Minnows Nutritious Food for Sport Fish at Genoa NFH

BY JENNY BAILEY, GENOA NFH

Each year Genoa National Fish Hatchery (NFH) produces thousands of sport fish to support tribal, federal and state fishing programs and provides fish for research programs to help restore depleted or declining fish and freshwater mussel populations in the wild.

-USFWS

Genoa National Fish Hatchery staff bait a minnow trap.

Finding a nutritious and inexpensive food source that maintains water quality and can support healthy growth of walleye, largemouth and smallmouth bass in outdoor fish culture ponds can be challenging. Formulated food can be expensive, is not readily accepted by pond-raised species, and can produce cumulative amounts of waste, which can foul water quality and result in reduction of growth and overall health. Frozen live food, such as krill and bloodworms, is good for intensive culture methods, but is not practical for outdoor pond production. Rainbow trout fry and fingerlings can be produced in small amounts as a forage species, but cost about one dollar per pound in labor, equipment and food costs. Fathead minnows, on the other hand, can be produced in an extensive fish culture setting throughout the summer months for about one cent per pound.

This summer, over 1 million fathead minnows were produced during July and August at Genoa NFH to feed up to 100,000 largemouth bass smallmouth bass and walleye fingerlings. Sportfish fingerlings are ready to eat small minnows when they reach two inches in length, usually around the first week of July. This coincides with fathead minnow growth and the ability for hatchery biologists to catch spring-spawned minnows in traps. Each spring, hatchery biologists stock a 34 acre pond with one million fathead minnow adult brooders. Brooders begin to spawn when the water temperature reaches about 65 degrees Fahrenheit, and continue spawning throughout the summer. Beginning July 1st the traps are baited with dog food, which is irresistible to young minnows. Traps are collected daily throughout the summer and each day's catch is then stocked out to smaller ponds where sport fish are growing. Minnows trapped in September, October and November will be used to feed the adult sportfish brooders that hatchery biologists keep in captivity throughout the winter.

The fathead minnows are inspected by fish health biologists each spring and fall. This ensures that any fish eating forage fathead minnows are safe from acquiring a fish disease from the minnows. With the emergence of new, transmittable wild fish diseases, the transfer and collection of non-certified forage fish species is highly regulated. Genoa NFH provided 13,000, certified, disease-free fathead minnows to the Wisconsin Department of Natural Resources this year so they can begin their own forage fish production program at Wild Rose State Fish Hatchery.

Besides being a healthy, nutritious, and disease-certified food source for sport fish fingerlings, fathead minnows would be a natural, native food source for these species if they were hatched in the wild. The native range of fathead minnows covers most of the United States, so wherever fingerlings are stocked, they will most likely encounter fathead minnows to forage on in the wild. This should help them adjust to their new environment as quickly as possible.

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Flying Silvers on Display in Peoria, Illinois

BY TERESA CAMPBELL, CARTERVILLE FWCO

Since Asian carp are in the spot light, they were presented as the crown event of the 2011 "Spring Roundtable" meeting of the Midwest Natural Resources Group (MNRG). The MNRG is a group comprised of diverse federal environmental agencies, and is designed to gain collaboration and partnership in support of natural resources and the environment. Member agencies can be found on their website at http://www.mnrg.gov/whatis.htm. This year, on June 9th, they met in Peoria, Illinois (IL). Since they were so close to the Illinois River, they hoped to get a first-hand view of the hot-ticket species that have been on everyone's minds. While not all the missions of these agencies relate directly to Asian carp and aquatic invasive species, they feel that it is important to understand all factors influencing the environment.

-USFWS

Participants of the Midwest Natural Resources Group examine some silver carp. Since Asian carp are currently in the spotlight, they were presented as the crown event of the 2011 "Spring Roundtable" meeting.

The Carterville Fish and Wildlife Conservation Office (FWCO) office took three boats up to Peoria to take the group out on the Illinois River and Peoria Lake to show them jumping silver carp, the most visible and "exciting" of the Asian carps. Early in the morning, before the demonstration, Carterville staff took out their boat, the *Carp Caddy*, to shock up some Asian carp to show the group before heading out on the water. They then met the group at the docks in downtown Peoria and biologists Sam Finney and Jeff Stewart explained about the status and threat of the four invasive Asian carp species.

After everyone had a chance to get a close-up look at a silver and bighead carp, they were ready to go see some silvers in action. Although the skies had looked gray all day, the hope was that the storm would hold off until after the demonstration. Of course, just before the boats were to head out, a huge bolt of fork lightening split the sky right above the I-74 Bridge. That brought things to a quick end, and the crews and passengers took shelter in the parking garage beneath Joe's Crab Shack.

Although the weather was a minor setback, the wait provided everyone an opportunity to meet each other and learn more about the different agencies. Then the sun came out and everyone geared up once again. The Carterville FWCO staff started up the electricity in the *Carp Caddy* and was able to shock up some jumping silvers. Unfortunately, the waters were deep and cool from the storm that morning and the night before, and it was difficult to find good "hot spots" for the jumping carp. However, the group was satisfied, and some of the people on the shocking boat were able to step on the pedals and learn about the electrofishing setup.

It turned out to be a great educational experience and a way to raise awareness among environmental partners about the severity of the Asian carp epidemic.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Service Assists with Lake Michigan Hydroacoustic and Midwater Trawling Forage Fish Survey

BY DALE HANSON, GREEN BAY FWCO

Lake Michigan's salmon and trout are sustained by pelagic forage species including alewife, rainbow smelt and native bloater chubs. The forage fish biomass estimates are an important component in the management of trout and salmon populations. Since 1991, the U.S. Geological Survey (USGS) Great Lakes

-USFWS/Dale Hanson

The crew of the *Spencer F. Baird* brings a midwater trawl back onboard after a 20 minute tow.

Science Center and Michigan Department of Natural Resources (DNR) have teamed up to complete an annual forage fish survey using hydroacoustics paired with midwater trawling. In 2011, the Fish and Wildlife Service vessel, the *Spencer F. Baird*, also participated to enable greater survey coverage. Forage fish biomass is estimated from hydroacoustic and midwater trawl data obtained from transects distributed throughout the lake; in 2011 up to 27 transects were scheduled among the agencies. Green Bay Fish and Wildlife Conservation Office (FWCO) biologists Ted Eggebraaten and Dale Hanson, along with Stephen Lenart from the Alpena FWCO conducted the survey aboard the *Baird* from August 12th – 26th; however, frequent high-wind conditions prevailed and limited the *Baird* to completing three of five scheduled transects.

Forage species are generally found near the lake bottom during daylight hours, but move up into the water column after sunset and hence are detectable with hydroacoustic sampling. While transecting, the biologists monitor acoustic echograms which display the fish targets detected during the survey. The intensity of the return signal on the echogram is an indication of fish size; however, trawling is often required to determine the species compositions of fish insonified on the echogram.

Hydroacoustic estimates of forage fish biomass will be developed over the next few months by Dave Warner (USGS), Randy Claramunt (Michigan DNR), and Dale Hanson. These estimates will be presented to the Lake Michigan committee where members will consider the status of trout and salmon stocking rates in relation to the available prey estimates.

-USFWS/DaleHanson

These rainbow smelt were captured in a midwater trawl fished at a depth of 20 meters.

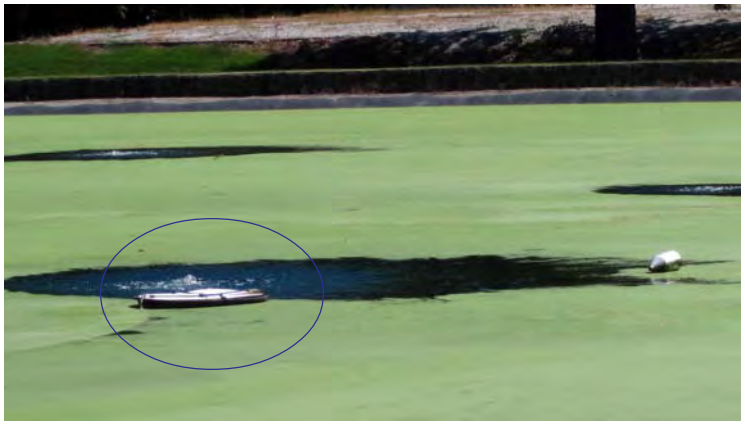
For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

The Fisheries Program maintains and implements a comprehensive set of tools and activities to conserve and manage self-sustaining populations of native fish and other aquatic resources. These tools and activities are linked to management and recovery plans that help achieve restoration and recovery goals, provide recreational benefits, and address Federal trust responsibilities. Sound science, effective partnerships, and careful planning and evaluation are integral to conservation and management efforts.

Summer Growth of Native Fatmucket Mussels

BY MELISSA CHEUNG, NEOSHO NFH

Ever since early May, biologists Jaime Pacheco and Melissa Cheung have spent an abnormal amount of time on Pond 20. Normally home to freshwater drum, this pond is the current site of our fatmucket floating upweller system (flupsy). While the fish still use this pond, the flupsy is situated adjacent to an aerator near the center of the pond.



-USFWS

Fatmucket mussels are being cultured in a floating upweller system (flupsy) over a pond aerator at the Neosho National Fish Hatchery.

To provide the native mussels with some food, we had to improve water quality and nutrient conditions. In order to discourage filamentous algae, concentrated blue dye has been added routinely. Highly concentrated bacteria in dry form are added to accelerate the breakdown of detritus and dead algae. The four aerators, which have been in this pond for years, are still used and filamentous algae was manually removed in early summer. Hundreds of pounds of alfalfa meal fertilizer have also been added on an "as needed" basis to promote the growth of food for the mussels.

Slowly and without the use of chemicals, the pond is becoming a place that can foster mussel growth. There has been a visible shift from filamentous algae covering the top and bottom of the pond to duckweed covering the surface of the water. The duckweed, in combination with the concentrated blue dye, has prevented the growth of most filamentous algae. Duckweed, being a tiny floating plant, is moved by wind and water current. The duckweed does not inhibit the growth of plankton, an important food source for mussels. In addition, the flupsy is kept by an aerator to prevent duckweed from surrounding the flupsy.

Although there are still plenty of ways in which we can manipulate the system in Pond 20, it is nice to see some positive results. On May 3rd, the day the mussels arrived, a water sample was obtained and examined for levels of "mussel-edible" food by Dr. Barnhart's lab at Missouri State University. The results were not great. In late August, food concentration was examined again. While the result was not near as productive as the water source surrounding the Kansas City Zoo flupsy, the water samples did show an improvement. The growth also suggests that food is available for the fatmuckets.

This is still the first year that mussel propagation has been attempted in this pond. Because the pond has a leak, any overflow goes straight into the creek. Knowing this, the biologists avoided any harsh chemicals, opting for natural alternatives. The eventual goal is to provide grow-out space for endangered native mussels. As the staff becomes more familiar with manipulating pond conditions, the mussels will benefit.

For further info about the Neosho NFH: http://www.fws.gov/midwest/neosho/

Mobile Freshwater Mussel Rearing Unit Put to the Test

BY DOUG ALOISI, GENOA NFH

The Genoa National Fish Hatchery's (NFH) Mobile Aquatic Rearing System (MARS) was constructed in the winter of 2009 with the express goal of increasing juvenile freshwater mussel early life history survival. Reproducing juvenile freshwater mussel dietary requirements in artificial culture systems are difficult at best when nutritional requirements of freshwater mussels have not been defined. The role of the MARS trailer was to supply water from a natural environment such as the Mississippi River in order to supply all the needed nutritional requirements and leave nothing to chance. This

theory did not automatically work in practice in the summer of 2009. Other considerations such as the mussel's habitat and substrate requirements did not seem to be met in our trailer culture trials.

-USFWS

Juvenile mussels are being cultured in a mobile aquatic rearing unit utilizing nutrient-rich Mississippi River water.

In 2011, in order to maximize the trailer's usefulness, the station used a variety of methods and life stages in the trailer to further mussel conservation efforts. This season, older mussels from 1 and 2 year old year classes were placed in the trailer to further grow them to be more resistant to predation. The warm waters of the river are able to increase growth rates by up to 50% compared to the cooler waters available from our pond water sources on site at the Genoa NFH. The station also is able to produce 90-120 day mussels intensively through "mucket buckets" and then bring them to the trailer. Mussel growth begins to slow in these buckets after they are 90-120 days old, and the warm waters in the trailer and increased food supply apparently have increased the young mussel's size exponentially. The mussels have doubled in size in less than 30 days in the trailer.

Future uses for the trailer include installing ultraviolet treatment on the influent and effluent to use it as a quarantine facility for host fish species; and infesting host fish with mussel larvae. The mussel larvae will develop on the fish hosts, and when they release to themselves from their hosts, they will grow inside rearing units in the trailer. Many thanks go out to our conservation partners at the U.S. Army Corps of Engineers (COE) for supplying the funding. The COE also operates Blackhawk Park where the MARS is located. They allowed us a secure site to park our trailer and access to some of that great Mississippi River water to further our understanding of mussel biology. Stay tuned for more action packed episodes of mussel conservation alongside the Mississippi River at the Genoa NFH-MARS trailer site!

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

2011 Prey and Juvenile Fish Survey of the St. Marys River

BY ANJANETTE BOWEN, ALPENA FWCO

In August, the Alpena Fish and Wildlife Conservation Office (FWCO) completed the second of a two year survey to provide information on prey and juvenile fish of the St. Marys River, the connecting waterway between lakes Superior and Huron/Michigan. The need for information on juvenile and prey fish was identified by the St. Marys River Fishery Task Group (SMRFTG). The task group currently conducts a coordinated gill net survey of the river every four to six years; however, small fish are not captured with gear used during sampling. The Alpena FWCO, a member of the SMRFTG, committed to conducting a two year study of juvenile and prey fishes of the river in partnership with the task group.

Eighteen locations across the St. Marys River were sampled. Five minute on-contour trawl tows were completed at each location along 5-10, 10-15, 15-20, and 20-25 foot water depths, where depths were available. A total of 59 trawl tows comprising 4.9 hours of sampling effort were conducted. Fish were collected and frozen. Information will be recorded on all species captured from each trawl tow and will include count, total weight and a subsample of total lengths. Biologists Anjanette Bowen, Joseph Gerbyshak and Ashlee Horne conducted the survey. Students from Lake Superior State University (Jason Sauve and Amanda Chambers) and Sault College of Applied Arts and Information (Kerry Perrault) assisted with sampling.

In addition to documenting the juvenile and prey species found in the river, this survey also documented any invasive fish – particularly Eurasian ruffe and round goby – that may be moving into the area. Eurasian ruffe were not captured; however, round gobies were captured in Potagannissing Bay and Raber Bay. Goby were first reported by anglers from this area near Drummond Island in 2008. A report will be forthcoming.

For further info about the Alpena FWCO: http://www.fws.gov/midwest/alpena/index.htm

Asian Carp Watch in the Chicago Area Waterway System

BY NICK BLOOMFIELD, LA CROSSE FWCO

The week of August 8th, Heidi Keuler, Julia Egan, Katie Holland and I travelled to Chicago to electrofish five sites above the electric dispersal barrier located in the Chicago Sanitary and Shipping Canal. The purpose of this sampling is to monitor the area for invasive Asian carp that may have breached the barrier. Julia and Katie also took turns helping a crew from the Carterville Fish and Wildlife Conservation Office (FWCO) collect DIDSON (dual frequency identification sonar) video at the dispersal barrier to determine barrier efficacy. The five sites took us all over the Chicago area, including the Chicago River, Little Calumet River, Lake Calumet, North Shore Channel, and the North Branch of the Chicago River. We collected nearly 1,400 fish representing 27 species, none of which were Asian carp species. While the diversity is somewhat surprising in such a large urban area, the beautiful coloration of the fish is what really catches one's eye.

-USFWS

Julia Egan (left) and Katie Holland dip fish at Lake Calumet near the Chicago Sanitary and Shipping Canal as part of the monitoring effort for the presence of invasive Asian carp.

Aquatic Invasive Species

Aquatic invasive species are one of the most significant threats to fish and wildlife and their habitats. Local and regional economies are severely affected with control costs exceeding $123 billion annually. The Fisheries Program has focused its efforts on preventing introductions of new aquatic invasive species, detecting and monitoring new and established invasives, controlling established invasives, providing coordination and technical assistance to organizations that respond to invasive species problems, and developing comprehensive, integrated plans to fight aquatic invasive species.

Mark Steingraeber and I made another trip to Chicago on August 29th to collect eDNA samples in the Little Calumet River and Lake Calumet. Mari Nord of the United States Environmental Protection Agency came along to help out as well. Rebekah McCann of the La Crosse Fish Health Center rode with us to receive filtering training and help filter samples we collected. Results from the samples will be available from the United States Army Corps of Engineers website in the next few weeks.

-USFWS

A beautifully colored orange spotted sunfish was captured during the invasive Asian carp survey in Lake Calumet.

For further info about the La Crosse FWCO: http://www.fws.gov/midwest/lacrossefisheries/

The Hunt for Eurasian Ruffe

BY JOSEPH GERBYSHAK, ALPENA FWCO

Eurasian ruffe were introduced to the Great Lakes, like many exotic invaders, via the ballast water from ocean-going vessels. Ruffe, which are in the family perchidae, have a similar diet and feeding habits to other fish in that family leading to less food for native perchids. This can cause a decline in the population of native perchids and eventually be problematic for the Great Lakes food web. Early detection and tracking of the ruffe population are important to understand the dynamics of the food web and ultimately the proper management of the fishery.

The Sea Lamprey Control Program reported a ruffe was caught in a trap located in the Trout River, north of Rogers City, Michigan. This prompted the Alpena Fish and Wildlife Conservation Office (FWCO) staff to attempt to locate this invader. During the

week of September 12th, biologists Joseph Gerbyshak and Adam Kowalski set out to confirm the presence of ruffe in the Trout River and several other watersheds in close proximity to the Trout River. Trap nets and electrofishing were used to sample fish communities in the Trout, Swan and Thunder Bay rivers. Fortunately, no ruffe were detected. Nevertheless, yearly monitoring will continue to occur in Lake Huron and its tributaries for the presence of ruffe and other invasive species.

For further info about the Alpena FWCO: http://www.fws.gov/midwest/alpena/index.htm

Carterville FWCO Shocks and Tags with the USACE

BY TERESA CAMPBELL, CARTERVILLE FWCO

The Carterville Fish and Wildlife Conservation Office (FWCO) travelled to Chicago in June to help collect fish for the U.S. Army Corps of Engineers' (USACE) telemetry study near the electric dispersal barrier located in the Chicago Sanitary and Shipping Canal. The USACE tracks the movements of fish species in and around the barrier system to detect any ability to challenge or pass through the electric fields. In the past, the study has dealt with mostly larger fish, especially common carp due to their high abundance in the Chicago Area Waterway System (CAWS). However, as a result of laboratory studies showing that smaller fish have greater potential to get through the barriers, the focus has changed to smaller fish (under five inches). Therefore, this year the USACE purchased 15 small-sized ultrasonic transmitters in order to tag and track small fish.

-USFWS

Kelly Baerwaldt of the U.S. Army Corps of Engineers ties a suture on a white sucker after implanting a small ultrasonic transmitter.

Each morning, Carterville FWCO staff took their electrofishing boat out on the CAWS, looking for appropriate sizes and species. They transported the fish in live wells to the launch area where USACE biologist Kelly Baerwaldt led the tagging procedures. The fish were first placed in a large cooler full of water and anesthetized with clove oil. When a fish became drowsy and unresponsive, it was put on a board to be tagged. The tagging process required three people: one to hold the fish, one to keep it "breathing" by flushing water over the gills, and one to do the tagging. Once the fish was on the board, Baerwaldt made an incision in the lower abdomen area, just wide enough to insert the tag. She then pushed the tag into the opening and closed it with sutures, covering the suture in super-glue to temporarily protect the stitches. After tagging, the fish was placed into a second cooler where it could revive before being released back into the CAWS.

Fourteen small fish and 47 large fish were caught, tagged and released throughout the week. Once the fish were tagged, they were transported into the electric barrier system. Some were released below the barriers, and others were released between the currently-activated barriers: Barrier IIA and Barrier I. These fish would then be theoretically trapped, by the canal walls and by electricity. Their movements are tracked by stationary receivers and mobile hydrophones, and give important insight into the efficacy of the barriers.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Pendills Creek NFH Open House

BY JAIME MASTERSON, PENDILLS CREEK NFH

On August 13th Pendills Creek National Fish Hatchery (NFH) welcomed Fish and Wildlife Service members from around the region, local businesses, community members and U.S. Senator Carl Levin's Community Affairs Specialist for the Upper Peninsula of Michigan (MI) Elizabeth Reed in celebration of the new raceways, raceway building and traveling screen building completed at Pendills Creek NFH this summer.

-USFWS

The U.S. Coast Guard presents our nation's flag at the Pendills Creek National Fish Hatchery's open house, celebrating the completion of several construction projects.

An open house event was held from 1:00 pm to 4:00 pm, starting off with tours of the entire facility, including a unique look into the automated coded-wire tagging trailers that were operating at Pendills Creek NFH. A dedication ceremony was held and began with the help of the U.S. Coast Guard of Sault Ste. Marie, Michigan, presenting our nations flag. President of the *Friends of Pendills Creek Hatchery* Molly McGrail spoke on behalf of the Friends Group. Assistant Regional Director Mike Weimer and Hatchery Program Supervisor Kurt Schilling (both from the Regional Office) adressed the crowd. Awards were given to some members of the *Friends of Pendills Creek Hatchery* for their efforts in supporting the event. After the dedication, everyone was invited to enjoy some refreshments and snacks while they continued to tour the facility and celebrate the hatchery improvements.

As the population in the United States continues to grow, the potential for adverse impacts on aquatic resources, including habitat will increase. At the same time, demands for responsible, quality recreational fishing experiences will also increase. The Service has a long tradition of providing opportunities for public enjoyment of aquatic resources through recreational fishing, habitat restoration, and education programs and through mitigating impacts of Federal water projects. The Service also recognizes that some aquatic habitats have been irreversibly altered by human activity (i.e. - dam building). To compensate for these significant changes in habitat and lost fishing opportunities, managers often introduce non-native species when native species can no longer survive in the altered habitat.

For further info about the Pendills Creek NFH/Sullivan Creek NFH: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/pendills.pdf

On Walkabout at Genoa NFH

BY ANGELA BARAN, GENOA NFH

Usually May is the busy month for outreach activities at Genoa National Fish Hatchery (NFH), but this summer the hatchery staff are starting to wonder if August might be the new busy season! During the month of August, staff gave six guided tours to approximately 200 people, attended two children's fishing tournaments and two River Education events, all amid lake sturgeon tagging and mussel surveys! Nathan attended the Pool 9 River Education Days, helping kids learn about the Mississippi River ecosystem. Children were able to wade around the shoreline looking for native freshwater mussels in the sand, bringing them back to Nathan to identify and explain. After the event, I think he may have recruited some future mussel biologists for the Fish and Wildlife Service! Nathan also set up a booth at the Children's Museum in La Crosse, Wisconsin, for another river education event sponsored by the public library system, informing children and adults about the fish and mussel programs at Genoa NFH.

It was all hands-on-deck for the La Crosse Parks and Recreation Summer Adventure Camp tour on August 25th. The group of 100 kids and adults was split into 3 groups and given a full walking tour of the hatchery and the Discovery Wetland. It was a beautiful sunny day and the groups were able to see fish in all the ponds and even "Herman the sturgeon" swimming in Pond 4! That tour was followed the next day by a group working with the U.S. Geological Survey in La Crosse, who was treated to the deluxe tour including the streamside Mobile Aquatic Rearing System (MARS) trailer.

On August 30th, students from a hydro-ecology course at Augustana College in Rock Island, Illinois, drove up to get some field experience with mussels and a tour of Genoa NFH, of course! After the walking tour of the hatchery, everyone caravanned down to Blackhawk Park to check out the MARS trailer, getting the history of mussel culture at Genoa NFH from Doug Aloisi. The students were able to see several life stages of mussels in the trailer and also to see the difference in growth between the hatchery's mucket bucket juveniles and the juveniles transferred to the trailer.

-USFWS

Ho-Chunk Youth and Learning Center children tour the Genoa National Fish Hatchery culture ponds on their way to Genoa's Discovery Wetland.

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Jordan River NFH Contacts Thousands through Emmet/Charlevoix County Fair

BY ROGER GORDON, JORDAN RIVER NFH

Jordan River National Fish Hatchery (NFH) staff, volunteers and Friends Group members had the opportunity to talk to thousands of visitors at one of northern Michigan's largest county fairs this past month. The combination Charlevoix/Emmet County fair was held the week of August 21st in Petoskey, Michigan. This well done event attracts thousands of people to the beautiful shores of Lake Michigan annually and is the perfect venue for the hatchery to showcase the Fish and Wildlife Service Fisheries program of the Midwest Region. A big hit, as always, was the life-sized fish mounts representing many of the species cultured by the Region 3 hatchery system. Once again the hatchery would not be able to carry out this and other events without the dedicated assistance of those individuals who volunteer their time to help us and our program(s) throughout the year. Big thanks to you all from the crew at Jordan River NFH. Hope to see you all again at next year's events! For more information about this or other happenings at the Jordan River NFH, please contact Hatchery Manager Roger Gordon at 231-584-2461 or by email: roger_gordon@fws.gov, or check us out on Facebook at: http://on.fb.me/i4jfDV .

-USFWS

Public outreach venues such as county fairs and sporting shows afford the opportunity for Fish and Wildlife Service personnel to showcase important programs and initiatives to interested Americans.

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

Green Bay FWCO Completes Lake Whitefish Survey

BY TED TRESKA, GREEN BAY FWCO

During the first week of August, staff from the Green Bay Fish and Wildlife Conservation Office (FWCO) completed their annual survey of lake whitefish and lake trout in the waters off of Escanaba, Michigan, in northern Green Bay. Thousands of feet of graded mesh gillnets were set in varying depths of water to accurately portray the fish community present in the area. All fish caught in the nets were examined and biological information including length, weight, sex and maturity was recorded with ageing structures and stomach contents being preserved for later analysis.

-USFWS/TedTreska

Biologist Dale Hanson measures the length of a lake whitefish captured in a fishery survey in northern Green Bay. A round whitefish waits to be measured.

This data provides important information on how the population structure is changing over time in terms of size and age, how the diet patterns of these commercially exploited species vary with the changes in abundance of available forage, and how these changes affect their annual growth. Using standardized gear and methods that have been adopted by agencies around the lake provides an opportunity to compare metrics between different areas of the lake in terms of catch per unit effort.

Results from these nets and others like them set around the lake provide a vital part of a suite of information that is then used catch-at-age models that determine the amount of sustainable harvest that can be removed from each management unit in a given year. Language in the 2000 Consent Decree which encompasses the waters of northern Lake Michigan, northwestern Lake Huron and eastern Lake Superior dictates how that harvest is split between the states and the tribal entities around the lake. Biologists from the Fish and Wildlife Service, State of Michigan and contributing tribes work together to assure that the models are accurate and provide the best scientific representation of what is happening in the lake.

Conserving this Nation's fish and other aquatic resources cannot be successful without the partnership of Tribes; they manage or influence some of the most important aquatic habitats both on and off reservations. In addition, the Federal government and the Service have distinct and unique obligations toward Tribes based on trust responsibility, treaty provisions, and statutory mandates. The Fisheries Program plays an important role in providing help and support to Tribes as they exercise their sovereignty in the management of their fish and wildlife resources on more than 55 million acres of Federal Indian trust land and in treaty reserved areas.

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

Green Bay Biologist Attends Science Workshop on Physical Forces that Effect Fish Reproductive Success in the Great Lakes

BY CHARLES BRONTE, GREEN BAY FWCO

Science and technology form the foundation of successful fish and aquatic resource conservation and are used to structure and implement monitoring and evaluation programs that are critical to determine the success of management actions. The Service is committed to following established principles of sound science.

Biologist Charles Bronte of the Green Bay Fish and Wildlife Conservation Office (FWCO) was invited to and attended a meeting of leading marine and freshwater fishery biologists and limnologists in Detroit on October 16th and 17th to discuss possible research questions centered around the effects that wind, weather and river discharge have on the recruitment success for fishes in the Great Lakes. This has been a major research effort in marine environments, where the reproductive success (known as recruitment) of many commercially important species is climate-related.

The meeting was organized by Dr. Stu Ludsin (Ohio State University) and Dr. Ralph Smith (University Of Waterloo) who are members of the Great Lakes Fishery Commission's Board of Technical Experts (BOTE), and lead a research theme area for funding research on physical forces that influence fish populations. Bronte also serves on BOTE. The two day workshop involved presentations by leading scientists that study and model the effects of wind, waves, discharges and other forces on fish populations using the state-of-the-art spatial models. These tools can be applied to Great Lakes populations of interest such as walleye in Lake Erie and cisco in Lake Superior. Additional workshops will be convened to further formulate research projects related to the theme area for funding by the Great Lakes Fishery Commission.

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

Tour of the Boardman River with Conservation Resource Alliance

RICK WESTERHOF, GREEN BAY FWCO and MIKE WEIMER, MIDWEST REGION

Loss and alteration of aquatic habitats are principal factors in the decline of native fish and other aquatic resources and the loss of biodiversity. Seventy percent of the Nation's rivers have altered flows, and 50 percent of waterways fail to meet minimum biological criteria.

Amy Beyer, Director at Conservation Resource Alliance (CRA), met with Mike Weimer, Assistant Regional Director for Fisheries, and biologist Rick Westerhof of the Green Bay Fish and Wildlife Conservation Office (FWCO) on August 16th to tour the four dams on the Boardman River near Traverse City, Michigan. The tour began at the Brown Bridge Dam located at river mile 18.5, then moved to the Boardman Dam at river mile 6.1 and Sabin Dam at river mile 5.3, and concluded at the Union Street Dam at river mile 1.5. At each location, Amy gave a brief overview of the significant characteristics, concerns and issues related to restoring river connectivity and function in the Boardman River. For example at Brown Bridge Dam, approximately 85,000 cubic yards of sediment has accumulated in the upper impoundment delta area, deposited there since 1921 when the dam was built. At Boardman Dam, discussion focused on the potential impact to motorists from the possible removal of the dam structure which currently provides passage for Cass Road. Concerns at Union Street centered on providing upstream/downstream passage though modifications to the dam, while maintaining the structure's ability to prevent sea lamprey and other invasive species from migrating upstream into the Boardman River watershed.

-USFWS

Mike Weimer of the Fish and Wildlife Service Amy Beyer of the Conservation Resource Alliance stand at the Brown Bridge Pond overlook with Brown Bridge Dam in the background. Brown Bridge Dam is being considered for potential removal.

Mike and Rick have a much better understanding of the Boardman River Dams Project because of the excellent tour provided by Amy. The tour was very timely as the Fish and Wildlife Service is the lead federal agency working with AMEC on the Environmental Assessment for the potential removal of the Brown Bridge Dam in 2012.

The CRA was hired by the City of Traverse City (owns Brown Bridge and Union Street dams) and Grand Traverse County (owns Boardman and Sabin dams) to be the project manager for activities related to the four dams and to assist the Boardman River Dams Implementation Team. Keeping track of the activities, consultants for each project and funding sources for the four dams is no easy task – but so far CRA has proven they can do it and do it well.

-USFWS

Mike Weimer of the Fish and Wildlife Service stands along the Boardman River in the old Boardman impoundment that was drawn down in 2007 for an emergency.

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

YCC Students Head Back To School

BY JAIME MASTERSON, PENDILLS CREEK NFH

As summer came to an end, the Youth Conservation Corps (YCC) students had completed their internships and were ready to head back to school. Over the course of their internship, the students learned the ins and outs of the daily routine that keeps our hatcheries running. The students worked on a variety of projects and tasks; cleaning raceways, feeding fish, distribution of broodstock, maintenance - and one of them even learned how to calculate feed charts and entered end of the month paperwork. Hopefully, this experience gave the students valuable insight into what it takes to work for the Fish and Wildlife Service and National Fish Hatcheries.

The Fisheries Program relies on a broad range of professionals to accomplish its mission: biologists, managers, administrators, clerks, animal caretakers, and maintenance workers. Without their skills and dedication, the Fisheries Program cannot succeed. Employees must be trained, equipped and supported in order to perform their jobs safely, often under demanding environmental conditions, and to keep current with the constantly expanding science of fish and aquatic resource management and conservation.

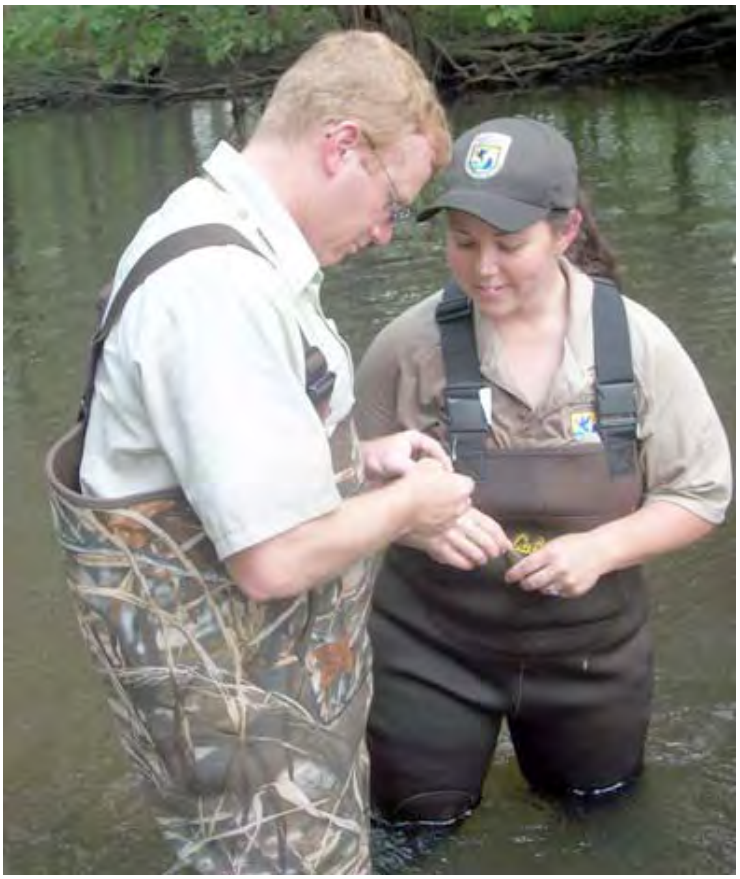
For further info about the Pendills Creek NFH/Sullivan Creek NFH: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/pendills.pdf

Biologists Attend Freshwater Mussel Identification Workshop

BY ASHLEE HORNE, ALPENA FWCO

On June 17th, Alpena Fish and Wildlife Conservation Office (FWCO) biologists Ashlee Horne and Justin Chiotti attended a mussel workshop put on by the Calhoun Conservation District in Marshall, Michigan. The purpose of the workshop was to help further knowledge and skills to identify and sample Michigan's mussels. Presentations were given by Joe Rathburn (Michigan Department of Environmental Quality) and Renee Sherman-Mulcrone (University of Michigan) on mussel life history, habitat requirements, biology, commercial history, current status, identification and sampling techniques. Students were given handouts, showing the names of important features on a mussel and how to correctly identify species. Everyone was given the chance to look at and handle mussel specimens in the classroom from the personal collections of the speakers. In the afternoon, attendees set out in waders to a local stream to gain practice at finding and identifying mussels in the field.

In 2008, biologists from the Alpena FWCO conducted a comprehensive study of native mussels in the Saginaw River watershed and identified 25 native species. In 2009, biologists reintroduced native mussels to the Detroit River, following the extirpation of all native mussels - growth and survival continues to be monitored each summer.



-USFWS

Ashlee Horne and Justin Chiotti of the Alpena Fish and Wildlife Conservation Office (FWCO) look at the identifying features of a freshwater mussel they found in a stream near Marshall, Michigan.

For further info about the Alpena FWCO: http://www.fws.gov/midwest/alpena/index.htm

Congressional Actions

S. 1201 (is) To conserve fish and aquatic communities in the United States through partnerships that foster fish habitat conservation, to improve the quality of life for the people of the United States, and for other purposes. [Introduced in Senate]

S. 52 (is) To establish uniform administrative and enforcement procedures and penalties for the enforcement of the High Seas Driftnet Fishing Moratorium Protection Act and similar statutes, and for other purposes. [Introduced in Senate]

H.R. 2373 (ih) To establish a regulatory system and research program for sustainable offshore aquaculture in the United States exclusive economic zone, and for other purposes. [Introduced in House]

S. 1401 (is) To conserve wild Pacific salmon, and for other purposes. [Introduced in Senate]

S. 1494 (is) To reauthorize and amend the National Fish and Wildlife Foundation Establishment Act. [Introduced in Senate]

H.R. 1160 (rh) To require the Secretary of the Interior to convey the McKinney Lake National Fish Hatchery to the State of North Carolina, and for other purposes. [Reported in House]

H.R. 2351 (ih) To direct the Secretary of the Interior to continue stocking fish in certain lakes in the North Cascades National Park, Ross Lake National Recreation Area, and Lake Chelan National Recreation Area. [Introduced in House]

S. 651 (is) To require the Secretary of the Interior to convey the McKinney Lake National Fish Hatchery to the State of North Carolina, and for other purposes. [Introduced in Senate]

H.R. 1160 (ih) To require the Secretary of the Interior to convey the McKinney Lake National Fish Hatchery to the State of North Carolina, and for other purposes. [Introduced in House]

H.R. 2834 (ih) To recognize the heritage of recreational fishing, hunting, and shooting on Federal public lands and ensure continued opportunities for these activities. [Introduced in House]

H.R. 1837 (ih) To address certain water-related concerns on the San Joaquin River, and for other purposes. [Introduced in House]

S. 1183 (is) To establish a national mercury monitoring program, and for other purposes. [Introduced in Senate]

S. 1224 (is) To amend Public Law 106-392 to maintain annual base funding for the Upper Colorado and San Juan fish recovery programs through fiscal year 2023. [Introduced in Senate]

S. 632 (is) To amend the Magnuson-Stevens Fishery Conservation and Management Act to extend the authorized period for rebuilding of certain overfished fisheries, and for other purposes. [Introduced in Senate]

H.R. 521 (ih) To amend the Federal Food, Drug, and Cosmetic Act to prevent the approval of genetically engineered fish. [Introduced in House]

S. 230 (is) To amend the Federal Food, Drug, and Cosmetic Act to prevent the approval of genetically-engineered fish. [Introduced in Senate]

H.R. 520 (ih) To amend the Federal Food, Drug, and Cosmetic Act to require labeling of genetically engineered fish. [Introduced in House]

H.R. 3069 (ih) To amend the Marine Mammal Protection Act of 1972 to reduce predation on endangered Columbia River salmon and other nonlisted species, and for other purposes. [Introduced in House]

H.R. 1646 (ih) To amend the Magnuson-Stevens Fishery Conservation and Management Act to preserve jobs and coastal communities through transparency and accountability in fishery management, and for other purposes. [Introduced in House]

Source is http://www.gpoaccess.gov/bills/index.html
Searched database by keyword = "fish"

Midwest Region Fisheries Divisions

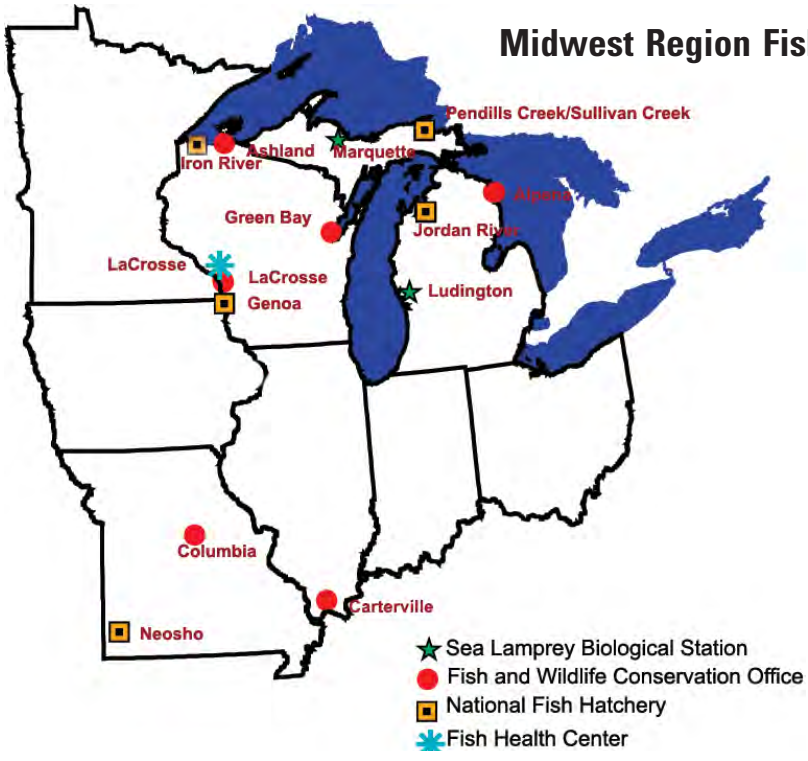
National Fish Hatcheries
The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

Fish and Wildlife Conservation Offices
Fish and Wildlife Conservation Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations
The Fish and Wildlife Service is the United States Agent for sea lamprey control, with two Biological Stations assessing and managing sea lamprey populations throughout the Great Lakes. The Great Lakes Fishery Commission administers the Sea Lamprey Management Program, with funding provided through the U.S. Department of State, U.S. Department of the Interior, and Fisheries and Oceans Canada.

Fish Health Center
The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state and tribal hatcheries in the region; conducts extensive monitoring and evaluation of wild fish health; examines and certifies the health of captive hatchery stocks; and, performs a wide range of special services helping to coordinate fishery program offices and partner organizations.

Midwest Region Fisheries Field Offices



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Fish Tails

"Fish Tails" includes articles that are included in field station reports that are not published in the "Conservation Briefs." These articles are categorized by focus area and includes the article title, author and field station. The website link, where the full article can be viewed, is highlighted in blue type.

Partnerships and Accountability
- Dive Partners
  - Scott Yess, La Crosse FWCO

Aquatic Species Conservation and Management
- Mass Marking Completed at Pendills Creek NFH
  - Charles Bronte, Green Bay FWCO

Aquatic Invasive Species

Public Use
- Sturgeon Teacher Workshop
  - Anjanette Bowen, Alpena FWCO

Cooperation with Native Americans

Leadership in Science and Technology
- Wisconsin Indianhead Technical College Schoolyard Wildlife Habitat Project
  - Ted Koehler, Ashland FWCO

Aquatic Habitat Conservation and Management

Workforce Management

Visitor Facility Enhancements at the Jordan River National Fish Hatchery